UNITED STATES DISTRICT COURT

NORTHERN DISTRICT OF CALIFORNIA

IMPINJ, INC.,

Plaintiff,

v.

NXP USA, INC.,

Defendant.

Case No. 19-cv-03161-YGR

ORDER GRANTING IN PART AND DENYING IN PART CROSS MOTIONS FOR SUMMARY JUDGMENT

Re: Dkt. Nos. 235, 273

Plaintiff Impinj, Inc. ("Impinj") moves the Court for partial summary judgment, and defendant NXP moves for complete summary judgment. (*See* Dkt. Nos. 235, Motion ("Mtn."); 273, Cross Motion ("Cross Mtn.").) Each party also brings *Daubert* motions (*see* Dkt. Nos. 233, Motion to Strike and Preclude Dr. Subramanian ("MTE Subramanian"); 241, Motion to Exclude Scott E. Thompson ("MTE Thompson"); 239, Motion to Strike Thompson and Kindler ("MTS Thompson"); 231, Motion to Strike van der Weide ("MTS van der Weide"); 240, Motion to Exclude Kindler ("MTE Kindler"); 238, Motion to Exclude Haas ("MTE Haas")), as well as administrative motions to seal.

For the reasons discussed below, the Court:

GRANTS Impinj's motion for partial summary judgment as to U.S. Patent No. 9,633,302 on both validity and infringement and accordingly **DENIES** NXP's motion for summary judgment on the same patent;

GRANTS NXP's motion for summary judgment as to noninfringement of U.S. Patent Nos. 10,002,266 and 9,495,631; and

DENIES NXP's motion for summary judgment as to noninfringement of U.S. Patent No. 8,115,597.

With respect to the motions to exclude and/or strike, the Court:

GRANTS the motion to exclude Dr. Subramanian;

GRANTS IN PART AND DENIES IN PART the motion to exclude Dr. Thompson and **DENIES** the motion to strike Dr. Thompson;

GRANTS IN PART AND DENIES IN PART the motion to strike Dr. Van der Weide; and

DECLINES to rule on the motions regarding damages experts Dr. Kindler and Dr. Haas.

The Court **GRANTS IN PART AND DENIES IN PART** the parties' administrative motions to seal.

I. BACKGROUND

Impinj filed this patent infringement suit against NXP on June 6, 2019. (*See* Dkt. No. 1.) Impinj filed its First Amended Complaint on February 18, 2020 and its SAC on October 27, 2020. (*See* Dkt. No. 71, Second Amended Complaint, ("SAC")). The asserted patents are directed to integrated circuits ("ICs"). (*See* SAC ¶ 5.) Fact discovery closed on April 25, 2022 and expert discovery closed on September 12, 2022.

The Court relieved the parties from the summary judgment pre-filing conference requirement on October 4, 2022. (*See* Dkt. No. 230.) Claims for infringement on four patents remain: U.S. Patent No. 10,002,266 ("the '266"), titled "RFID Tag Clock Frequency Reduction During Tuning"; 9,495,631 ("the '631"), titled "RFID Integrated Circuits with Contact Islands"; 9,633,302 ("the '302"), titled "RFID Integrated Circuits with Channels for Reducing Misalignment"; 8,115,597 ("the '597"), titled "RFID Tags with Synchronous Power Rectifier" ("Asserted Patents"). Impinj brings actions for infringement of the following claims: claim 8 of the '266 patent; claims 13-16 of the '631 patent; claims 1, 3, 4, and 7 of the '302 patent; and claims 1, 12, and 15 of the '597 patent.

II. LEGAL STANDARD

A. *Daubert* Motions

Federal Rule of Evidence 702 permits opinion testimony by an expert as long as the witness is qualified and based upon that qualification, the witness's opinion is relevant and reliable. An expert witness may be qualified by "knowledge, skill, experience, training, or education" as to the subject matter of the opinion. Fed. R. Evid. 702. The proponent of expert testimony has the burden of proving admissibility in accordance with Rule 702. *Id.*, Advisory

Committee Notes (2000 amendments). For scientific opinions, they must be based on scientifically valid principles. *Daubert v. Merrell Dow Pharms., Inc.*, 509 U.S. 579, 589 (1993). Experts assist the factfinder in their own evaluation of the evidence by providing the factfinder with opinions based upon verifiable, scientific, or other objective analysis. *Id.* at 589–90.

B. Summary Judgment

The parties are familiar with the summary judgment standard and guiding principles. When faced with summary judgment, the non-moving party is obligated "to identify with reasonable particularity the evidence that precludes summary judgment." *See, e.g.*, *Keenan v. Allan*, 91 F.3d 1275, 1279 (9th Cir. 1996) (district court is not obligated "to scour the record in search of a genuine issue of triable fact") (internal citations and quotations omitted).

"When an expert opinion is not supported by sufficient facts to validate it in the eyes of the law, or when indisputable record facts contradict or otherwise render the opinion unreasonable, it cannot support a jury's verdict." *Brooke Grp. Ltd. v. Brown & Williamson Tobacco Corp.*, 509 U.S. 209, 242 (1993) (internal citation omitted); *see also Dynacore Holdings Corp. v. U.S. Philips Corp.*, 363 F.3d 1263, 1278 (Fed. Cir. 2004) ("It is well settled that an expert's unsupported conclusion on the ultimate issue of infringement is insufficient to raise a genuine issue of material fact, and that a party may not avoid that rule simply by framing the expert's conclusion as an assertion that a particular critical claim limitation is found in the accused device.") (internal citations omitted).

Finally, "[c]onclusory allegations and attorney arguments are insufficient to overcome a motion for summary judgment." *Ferring B.V. v. Barr Lab'ys, Inc.*, 437 F.3d 1181, 1193 (Fed. Cir. 2006) (internal citations omitted); *Glaverbel Societe Anonyme v. Northlake Marketing & Supply, Inc.*, 45 F.3d 1550, 1562 (Fed. Cir. 1995) ("There must be sufficient substance, other than attorney argument, to show that the issue requires trial.") (internal citations omitted).

III. DISCUSSION

Impinj accuses NXP's UCODE 7 and UCODE 8 IC ("Accused Products") of infringing the Asserted Patents. Specifically, Impinj accuses UCODE 7 of infringing the '302 and '631 and UCODE 8 of infringing the '302, '631,'597, and '266. (*See* SAC ¶¶ 25, 41, 49, 58.)

A. Motions for Summary Judgment

> **6**. A Radio Frequency Identification (RFID) integrated circuit (IC) requiring a minimum clock frequency to operate according to a protocol (MFOP), a sufficient power to tune a variable impedance (SPTT), and a sufficient power to operate according to the protocol (SPOI) greater than the SPTT, the IC comprising:
>
> a tuning circuit configured to tune the variable impedance during a tuning phase; and
>
> a processor block configured to:
>
> in the tuning phase:
>
> extract a first power at least equal to the SPTT from an RF wave;
>
> cause the tuning circuit to tune the variable impedance to increase power extraction from the RF wave; and
>
> operate at a first clock frequency less than the MFOP while causing the tuning circuit to tune the variable impedance, wherein the IC is unable to communicate with an RFID reader according to the protocol while operating at the first clock frequency; and in a protocol phase subsequent to the tuning phase;
>
> extract a second power at least equal to the SPOI from the RF wave;
>
> operate at a second clock frequency greater than or equal to the MFOP; and
>
> communicate with an RFID reader according to the protocol while operating at the second clock frequency.

1. ’266 - NXP’s motion as to noninfringement of Claim 8 - granted

To prevail on summary judgment, NXP must show that one or more elements of the asserted claims are not met. Here, NXP argues that “element 6(b)” is not met because Impinj identifies no “processor block.”

Asserted claim 8 of the ’266 patent depends from claim 6, which itself requires the “processor block.” Impinj argues that the Court’s adoption of “plain and ordinary meaning” for the “processor block” favors its argument because the specification provides that the processor block “may be implemented in any way known in the art[.]” ’266 at 6:64-6:65. Notable here, the specification further provides that “one or more of a processor, memory, decoder, encoder, **and so**

on" (*id*. at 6:66-6:67; emphasis supplied) may constitute the "processor block."

Impinj then offers Dr. Durgin's expert testimony to support the existence of a "processor block" in the Accused Products, and asserts that Dr. Durgin relied on NXP's own schematics, specifications, and analyses. (*See* Dkt. No. 295-2 ("Impinj Oppo.") at 1.)

The Court is not persuaded by Impinj. First, Dr. Durgin's report does not provide bases for his opinions concerning the presence of a "processor block." At most, Dr. Durgin asserts that there is nothing preventing logic blocks from being the "processor block." This falls short of identifying a "processor block."

Second, Dr. Durgin concludes that limitation 6(b) is met without explaining why. Without identifying a "processor block," plaintiff cannot, by definition, explain what component is the "processor block" in the Accused Products which is performing the functions required by the claim, including (1) "extract[ing] a first power"; (2) "caus[ing] the tuning circuit to tune the variable impedance"; (3) "operat[ing] at a first clock frequency"; (4) "extract[ing] a second power"; and (5) "communicat[ing] with an RFID reader[.]" '266 Patent, Cl. 6. Dr. Durgin's proposal that nothing prevents logic blocks from being the "processor block" does not fit with the specification's supplied list of things that could be it.

Third, even considering the term "and so on" does not help Impinj because Impinj never specifically identifies what the processor block is. Under canons of construction, the "and so on" is limited to like things. Impinj gives no reasons for why the different components it proffers as serving as the "processor block" should be so understood. Moreover, even if Impinj did choose just one of those components, the Court sees no reason, in the absence of any supporting evidence, why those components should be understood to be a "processor block." Impinj's expert never provides a basis for finding otherwise. (*See* Dkt. No. 269-12, Durgin Opening Report ¶¶ 290-295.)

Impinj argues that it is not contending that the entire IC is the "processor block," but arguing what the "processor block" is not fails to inform what the "processor block" is. Impinj's authorities are distinguishable. Both stand for the proposition that showing literal infringement requires expert testimony at least some of the time. *See AquaTex Indus., Inc. v. Techniche Sols.*,

479 F.3d 1320, 1329 n.7 (Fed. Cir. 2007) ("Even where literal infringement is involved, expert infringement testimony is generally required in cases involving complex technology") (internal citation omitted); *Kyocera Senco Indus. Tools Inc. v. Int'l Trade Comm'n*, 22 F.4th 1369, 1377 (Fed. Cir. 2022) (citing *AquaTex* for the same proposition but explicitly considering only the distinct question of "the minimum qualifications necessary to offer testimony from the perspective of a skilled artisan").

Given the foregoing, Impinj's arguments that no Genuine Issue of Material Fact ("GIMF") exists as to whether the Accused Products include a "processor block" does not persuade. This is not a case where a jury can make a finding without the aid of expert testimony. Nor does Impinj argue that the technology at issue in this case is insufficiently complex to permit a finding of infringement without such testimony. Generic assertions that the products "as a whole" meet the limitation are not enough. *Intell. Sci. & Tech., Inc. v. Sony Elecs., Inc.*, 589 F.3d 1179, 1185 (Fed. Cir. 2009) ("Even if the elements are common components, the record must specifically identify the infringing features of those components and the reason that one of skill in the art would recognize them as infringing"). Impinj's arguments about functionality fail because Impinj does not identify the components performing the claimed functions.

Accordingly, no fact question exists because there is no evidence in support of the Accused Products including a "processor block." Nor has Impinj articulated any theory under which the Court could find that it has identified the claimed processor block.[1] Without that, there can be no infringement. The Court awards summary judgment of noninfringement in favor of NXP on the '266 patent.

2. '631 – NXP motion for noninfringement - Granted

Impinj asserts claims for infringement of claims 13-16 of the '631 patent. Claims 14-16 depend from claim 13, which itself requires:

[1] Charitably interpreted, Dr. Durgin's report states, for example, that "there is no requirement that a 'processor block' excludes multiple logic blocks that function together." (Dkt. No. 269-12, Durgin Report ¶ 292.) This is not enough to allow Impinj to clear the hurdle of claiming that it has carried its burden to show that there is no GIMF as to whether a "processor block" in the Accused Products carries out the claimed functions.

> **13**. A Radio Frequency Identification (RFID) integrated circuit (IC) comprising:
>
> a plurality of contact islands raised from a surface of the IC and separated from each other by at least one trench, the at least one trench spanning at least a width of an adjacent contact island, and the contact islands covering substantially an entire surface area of the IC except for the at least one trench, wherein each contact island includes:
>
> a nonconductive repassivation layer disposed on the surface of the IC;
>
> a conductive contact layer disposed on and covering the repassivation layer and confined within a perimeter of the IC; and
>
> an electrical coupling between the contact layer and at least one of a rectifier, a modulator, and a demodulator in the IC.

Notable here, claim 13 expressly requires that "each contact island include[ ] . . . an electrical coupling[.]"

To show infringement under the doctrine of equivalents ("DOE"),[2] Impinj would need to establish infringement of each element of the asserted claims under the function-way-result test. *Advanced Steel Recovery, LLC v. X-Body Equip., Inc.*, 808 F.3d 1313, 1319 (Fed. Cir. 2015) ("A patentee must [] provide particularized testimony and linking argument as to the insubstantiality of the differences between the claimed invention and the accused device[], or with respect to the function, way, result test when such evidence is presented to support a finding of infringement under the doctrine of equivalents") (cleaned up, quotations omitted). The question presented here centers on the electrical coupling of the contact pads.

a. Whether Impinj's DOE Theory Was Properly Disclosed

As a threshold matter, Impinj now argues that four contact pads may be equivalent to two given a preferred embodiment in the '266's specification. As discussed at the hearing on March 21, 2023, Impinj's infringement contentions do not actually disclose this theory with any kind of particularity. (*See* Dkt. No. 243-9 at 25-32.) To the extent that it is disclosed, and as discussed below, the theory is not persuasive in any event.[3]

[2] Impinj makes no literal infringement arguments concerning the '631 patent in its opposition to NXP's Cross Motion for Summary Judgment.

[3] In its Motion to Exclude Thompson, addressed below, NXP advances the same arguments for excluding Dr. Thompson's DOE opinions with respect to the '631.

b. DOE Theory

To start, Impinj itself "identifies" the four contact pads of the Accused Products "as the claimed contact islands." (Dkt. No. 295-2 ("Impinj Oppo.") at 4.) As noted, Impinj then argues that those four contact pads may be equivalent to two per a preferred embodiment of the specification of the '266, but Impinj does not point to where in the specification such an embodiment may be found.

While Impinj identifies those contact pads as the claimed contact islands, its argument that *each* is electrically coupled fails. Plaintiff lacks evidence showing that contact pads TP1 and TP2 are coupled. At deposition, Dr. Thompson himself admitted that there is "no doubt" that the test pads are not coupled. (Dkt. No. 269-4 ("Cross Mtn.") at 8 (citing Ex. 23 ("Thompson Dep.") at 140:8-23).)

Impinj's additional attempts at refuting NXP do not persuade. First, and relatedly, Impinj merely disagrees with defendant's expert Dr. Subramanian, but provides no affirmative basis for its own alternative position. Dr. Heinrich admitted in deposition testimony that when the die are cut apart, the test lines connecting the chip to the test pads are severed and consequently there is no electrical connection. (*See* Dkt. No. 269-21, Ex. 15 to Hendershot Decl., 351:22-356:5.) Where evidence shows that a claim limitation has not been met and the patentee fails to provide contrary evidence, summary judgment of noninfringement is appropriate. *See Johnston v. IVAC Corp.*, 885 F.2d 1574, 1578 (Fed. Cir. 1989) (awarding summary judgment of noninfringement where the accused infringer showed that a claim limitation was not met).

Second, it is impermissible for Impinj's DOE arguments to ignore, and thereby vitiate, the claim language. *Warner-Jenkinson Co. v. Hilton Davis Chem. Co.*, 520 U.S. 17, 39 n.8 (1997) ("if a theory of equivalence would entirely vitiate a particular claim element, partial or complete judgment should be rendered by the court"). As NXP contends, and Impinj does not seriously contest, modification to NXP's products would be required to find infringement. Modification is paradigmatic of "substantial difference[]" which defeats the doctrine of equivalents. *Minebea Co. v. Think Outside, Inc.*, 159 F. App'x 197, 204 (Fed. Cir. 2006).

Finally, Impinj does not even grapple with NXP's contentions that any alleged coupling is

severed before the ICs are imported or sold into the United States. (*See* Dkt. No. 310-4, Reply to MSJ by NXP at 3.) These all support a finding in favor of NXP.

c. Related Motion to Strike

As discussed below, the Court excludes Dr. Thompson's opinions concerning infringement of the '631 to the extent that he attempts to relitigate claim construction. As a consequence, Impinj cannot rely thereon to support its arguments here. Impinj's own authorities stand for the proposition that expert testimony is required to support a finding of infringement under the doctrine of equivalents. *See, e.g., AquaTex*, 479 F.3d at 1329 ("Both the Supreme Court and this court have made clear that the evidence of equivalents must be from the perspective of someone skilled in the art[]") (internal citations omitted).

* * *

Accordingly, Impinj has failed to meet its burden to survive summary judgment here because the plain language of the claims forecloses its arguments. It is not the case that "each" contact pad is electrically coupled. There is no question for the jury here because there are no literal infringement arguments left on the table, and there is no set of facts under which NXP's products would be infringing the '631 because it is not the case that each contact pad is electrically coupled. Accordingly, the Court **GRANTS** summary judgment in favor of NXP with respect to noninfringement of the '631.

[Intentionally Blank Below]

3. '302 – cross motions as to (non)infringement

Impinj brings claims for infringement of claims 1, 3, 4, and 7 of the '302 patent. Claims 3, 4, and 7 depend from claim 1, which itself requires:

> **1**. A Radio Frequency Identification (RFID) integrated circuit (IC) comprising:
> an IC substrate;
> a first antenna contact disposed on, and confined within a perimeter of, a surface of the IC substrate; and
> a second antenna contact disposed on, and confined within the perimeter of, the surface of the IC substrate; wherein:
> the first and second antenna contacts are separated by a channel having a first end, a second end opposite the first end, and a center between the first end and the second end;
> the channel spans a majority of a width of the IC substrate;
> a first transverse channel cross-section at the first end is substantially the same size as a second transverse channel cross-section at the second end and substantially larger than a third transverse channel cross-section at the center; and
> the channel is shaped to facilitate a fluid flow from the center to the first and second ends.

Impinj and NXP both move for summary judgment on the issue of infringement of the '302, and NXP moves for summary judgment as to the validity of the '302.

a. (In)validity

Patents are presumed valid. 35 U.S.C. § 282 ("A patent shall be presumed valid"). Thus, NXP bears the burden to show invalidity. As discussed below, the Court excludes Dr. Subramanian's opinions regarding the '302 as an attempt to relitigate claim construction. As a consequence, NXP is left with attorney argument only to prove invalidity. Without evidence, there can be no GIMF. The Court awards Impinj summary judgment in favor of Impinj on the validity of the '302. *See ParkerVision, Inc. v. Qualcomm Inc.*, 969 F. Supp. 2d 1372, 1379-1380 (M.D. Fla. 2013) (awarding summary judgment in favor of patentee on invalidity counterclaims where the patent validity challenger set forth no evidence in its favor).

b. Infringement

Similarly, with respect to infringement, NXP also relied on Dr. Subramanian. Those opinions are also excluded because they rely on improper claim constructions. Without the same, NXP again lacks evidence to raise a GIMF.

By contrast, Dr. Thompson's reports show how every limitation of the asserted claims of the '302 is met. (*See* Dkt. No. 236-5 ("Thompson Initial Rep.") ¶¶ 263-318.) Dr. Thompson

opines that the Accused Products are RFID ICs. (Dkt. No. 269-16, Thompson Initial Report ¶ 249.) Claim "element 1-a" is met because the Accused Products include an IC substrate composed of, for example, a repassivation layer and contact pads. *Id.* ¶ 258. Claim "elements 1-b and 1-c" recite, respectively: "a first antenna contact disposed on, and confined within a perimeter of, a surface of the IC substrate," and "a second antenna contact disposed on, and confined within the perimeter of, the surface of the IC substrate." Dr. Thompson opines that each of the Accused Products contains such antenna contacts, and NXP does not seriously refute this. *Id.* ¶¶ 266-269. Dr. Thompson explains that NXP's argument that a layer of TiW between the conductive layer of the contact pads and the repassivation layer does not defeat infringement because the "antenna contact" includes the repassivation layer and conductive layer. *Id.* ¶ 271. The Court agrees.

NXP focuses most of its argument on "elements 1-d, 1-e, and 1-f." However, it relies on Dr. Subramanian's opinions, which again attempt to relitigate the claim construction of "channel" and related issues. Dr. Thompson opines that the Accused Products include "first and second antenna contacts [] separated by a channel having a first end, a second end opposite the first end, and a center between the first and the second end." (*Id.* ¶ 273 (quoting '302 Patent, cl. 1).) In response, NXP's arguments strain credulity as they attempt to reconstrue the term "channel." The assertions do not overcome the Court's adoption of the plain and ordinary meaning of the term combined with the stipulation that the channel need not have continuous sidewalls. The same is true for "element 1-e" (that "the channel spans a majority of a width of the IC substrate") and "element 1-f" (reciting "a first transverse channel cross-section at the first end [] substantially the same size as a second transverse channel cross-section at the second end and substantially larger than a third transverse channel cross-section at the center"). Dr. Thompson opines that each of these is met. (*Id.* ¶¶ 285, 292.) To rebut, NXP has nothing but conclusory attorney argument.

Finally, Dr. Thompson also opines that "element 1-g," which claims facilitation of fluid flow, is met. (*Id.* ¶ 302). The Court agrees and rejects both Dr. Subramanian's claim construction arguments to the contrary and NXP's argument that the limitation is more than merely a statement of purpose. *See Texas Instruments Inc. v. U.S. Int'l Trade Comm'n*, 988 F.2d 1165, 1172 (Fed. Cir. 1993) (disagreeing that a "whereby" clause added a further substantive limitation, holding

instead that the International Trade Commission correctly found that the clause merely stated the intended result of the claim).

The same analysis applies to the asserted dependent claims of the '302. Dr. Thompson opines that the limitations of each claim are met. (Thompson Initial Report ¶¶ 319, 326, 335.)

As discussed further below, the Court excludes Dr. Subramanian's opinions regarding the '302 as an attempt to relitigate claim construction. Therefore, NXP has only attorney argument on its side for both validity and infringement. For the reasons stated above, and lacking any expert testimony or a GIMF, the Court finds that the claims are infringed by the Accused Products.

* * *

In summary, the Court denies NXP summary judgment on the issue of validity. On the issue of infringement, Dr. Thompson explains how every limitation of the asserted claims of the '302 is met, and the Court thus awards Impinj summary judgment on the issue of infringement of claims 1, 3, 4, and 7 of the '302 patent.

4. '597 – NXP's motion re non-infringement – Claims 1, 12, 15

Impinj asserts claims for infringement of claims 1, 12, and 15 of the '597 patent. Claim 12 depends from claim 1, which itself recites:

The invention claimed is:

1. A power rectifier for a Radio Frequency Identification tag circuit, comprising:

a first antenna input node for receiving a first phase of an alternating RF wireless signal;

a second antenna input node for receiving a second phase of the alternating RF wireless signal which is substantially opposite to the first phase;

a plurality of serially coupled stages, at least one of the stages including

a first synchronous element with a first beginning coupled to receive the second phase and a first ending, the first synchronous element including:

a first transistor having an input terminal at the first beginning, an output terminal, and a gate coupled to receive the first phase; and

a second transistor having an input terminal, an output terminal at the first ending, and a gate coupled to receive the second phase, in which the input terminal of the second transistor is connected to the output terminal of the first transistor at a first intermediate node so as to form a first charge-accumulating path between the first beginning and the first ending, and there is no charge-accumulating path between the first beginning and the first ending other than the first path; and

a second synchronous element with a second beginning to receive a first phase and a second ending, the second synchronous element including:

a third transistor having an input terminal at the second beginning, an output terminal, and a gate coupled to receive the second phase;

a fourth transistor having an input terminal, an output terminal at the second ending, and a gate coupled to receive the first phase, in which the input terminal of the fourth transistor is connected to the output terminal of the third transistor at a second intermediate node so as to form a second charge-accumulating path between the second beginning and the second ending, and there is no charge-accumulating path between the second beginning and the second ending other than the second path; and

in which the second beginning is coupled to the first ending.

Claim 15 recites:

15. A rectifier for a Radio Frequency Identification tag circuit, comprising:

a first antenna input node for receiving a first phase of an alternating RF wireless signal;

a second antenna input node for receiving a second phase of the alternating RF wireless signal which is substantially opposite to the first phase;

a zeroth stage transistor having an input terminal connected to ground, an output terminal, and a gate coupled to receive the first phase;

a plurality of serially coupled stages, at least one of the stages including:

a first synchronous element with a first beginning coupled to receive the second phase and a first ending, the first synchronous element including:

a first transistor having an input terminal at the first beginning coupled to the output terminal of the zeroth stage transistor, an output terminal, and a gate coupled to receive the first phase;

a second transistor having an input terminal, an output terminal at the first ending, and a gate coupled to receive the second phase, in which the input terminal of the second transistor is connected to the output terminal of the first transistor at a first intermediate node so as to form a first charge-accumulating path between the first beginning and the first ending, and there is no charge-accumulating path between the first beginning and the first ending other than the first path; and

a second synchronous element with a second beginning to receive the first phase and a second ending, the second synchronous element including:

a third transistor having an input terminal at the second beginning, an output terminal, and a gate coupled to receive the second phase;

a fourth transistor having an input terminal, an output terminal at the second ending, and a gate coupled to receive the first phase, in which the input terminal of the fourth transistor is connected to the output terminal of the third transistor at a second intermediate node so as to form a second charge-accumulating path between the second beginning and the second ending, and there is no charge-accumulating path between the second beginning and the second ending other than the second path; and

in which the second beginning is coupled to the first ending.

Asserting non-infringement, NXP proffers three arguments. One, its products cannot infringe because they include more than one charge-accumulating path (due to leakage). Two, under prosecution history disclaimer, Impinj's arguments are unavailable because they should have been made at claim construction. Three, Dr. Durgin's positions are incompatible with his previous positions and therefore should be disregarded. (*See* Cross Mtn. at 18.)

With respect to leakage, according to NXP, Impinj distinguished the '597 claims from the prior art on the ground that there are no other charge-accumulating paths, not even leakage paths, as in the Mandal prior art references. (*See* Dkt. No. 269-6, NXPFact 35, 36; Dkt. No. 231-6, Ex. E

to MTS van der Weide ("*Inter Partes* Review Patent Owner's Preliminary Response") at 44.)[4]

Dr. Durgin distinguished the claimed invention of the '597 from prior art, including Mandal, in *inter partes* review ("IPR") before the Patent and Trademark Office by clarifying that the prior art includes more than one charge-accumulating path, some of which are leakage paths. (*See* Inter Partes Review Patent Owner's Preliminary Response at 44, 45.) NXP argues that Dr. Durgin is trying to have it both ways by arguing, on the one hand that the '597 is distinguishable (and valid) on the ground that it has no other charge-accumulating paths but the main one, including leakage paths, and on the other hand, that leakage paths can be infringing. (*See* Cross Mtn. at 18-19.)

In reply, Impinj merely explains that the structure of the Mandal reference differs from that of the Accused Products, but Impinj does not adequately explain its import. If the Mandal reference, for example, has parallel charge-accumulating paths, but leakage paths would still constitute a yet additional path, then leakage paths are always additional paths. The importance of the reference is in whether or not leakage paths amount to additional paths, not whether there are *n* or *n + 1* paths exactly. (*See* Impinj Oppo. at 10.)

In particular, Impinj argues at IPR that the Mandal Thesis does not anticipate the claims of the '597 because the former discloses pairs of transistors that have additional paths for current to pass between them. (*Inter Partes* Review Patent Owner's Preliminary Response at 45.) Specifically, Impinj argues that Mandal's utilization of more than two transistors in parallel to connect the synchronous elements leads to more than one charge-accumulating path. (*See id*. at 45-46 ("Any rectifier design that included extraneous transistors—such as the rectifier of the Mandal Thesis—necessarily included additional charge-accumulating pathways as a result of the paths through the transistor terminals").)

Dr. van der Weide counters that the '597 cannot infringe because the synchronous

[4] For purposes of this Order, "Mandal" refers to the prior art created by Soumyajit Mandal, which includes at least a master's thesis submitted by Mr. Mandal at the Massachusetts Institute of Technology and U.S. Patent No. 8,045,047 ("the '047"), for which Mr. Mandal is named as a co-inventor. The '047 is titled "RF Power Extracting Circuit and Related Techniques," and the eponymous master's thesis relates to similar rectifier technology. (*See Inter Partes* Review Patent Owner's Preliminary Response at 18-20, 24-26.)

elements identified by Impinj contain more than merely two transistors in series, but Dr. van der Weide provides no explanation of what more those elements include. (*See* Dkt. No. 249-2 ¶¶ 64, 65.) Without further justification as to why Dr. Durgin's opinions support the position that the Accused Products include exactly one charge-accumulating path, the Court cannot find that NXP has shown no GIMF with regard to this dispute.[5]

Second, Impinj's arguments about raising these disputes at claim construction are well-taken. Previously, the parties agreed to a plain and ordinary meaning of "charge-accumulating path." If Impinj's expert previously opined that a leakage path creates an additional such path, there would have been no reason for NXP to push the issue further at claim construction. All sides would have been on notice of this understanding and its consequences. In fact, all of the cases that NXP cites in its cross motion on this issue are claim construction dispositions (*see* Cross Mtn. at 18, 19).

NXP argues that it is being prejudiced by Impinj's late disclosure of a novel interpretation of "charge-accumulating path." (Reply to MSJ by NXP at 8.) According to NXP, the parties' agreement to a "plain and ordinary" understanding of "charge-accumulating path" does not square with Impinj's current interpretation. As a result, the unforeseeable dispute could not have been addressed earlier.

The parties appear to agree that there are leakage paths available in the Accused Products. So the GIMF would be whether leakage paths constitute a second charge-accumulating path. NXP argues against Dr. Durgin's position on the '597 on the ground that it is inconsistent, but his testimony has not been stricken and therefore creates a GIMF. In fact, neither party presents unequivocal evidence sufficient either way.[6]

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[5] Impinj's long string cites are not an appropriate way to defeat summary judgment. *See, e.g., Cellspin Soft, Inc. v. Fitbit, Inc.*, No. 4:17-CV-05928-YGR, 2022 WL 2784467, at *7 (N.D. Cal. June 15, 2022) (finding lengthy string cites without explanation insufficient to carry the burden of showing that no GIMF exists at the summary judgment stage).

[6] In the first instance, the parties are less than perfectly straightforward regarding what the actual dispute is concerning whether there is more than one charge-accumulating path in the Accused Products. However, at the hearing on March 28, 2023, counsel for NXP agreed that any such arguments relate to the existence of "leakage paths." Dkt. No. 327, March 21, 2023 Hr'g Tr.

The question of whether charge accumulates along a given path is a factual question that has not yet been answered. The parties agreed to a plain and ordinary construction of "charge-accumulating path." The parties appear to agree, furthermore, that more than one path is available for the charge to get from the first end to the second end in the circuitry of the Accused Products.[7] The question of whether more than one *charge-accumulating path* exists in that circuitry remains. The motion for non-infringement is denied.

B. Motions to Strike and Exclude

1. Dr. Subramanian - Granted

Plaintiff moves to exclude Dr. Subramanian under Federal Rule of Evidence 702 and Patent L.R. 4 on the ground that paragraphs 302-55 and 365 of Dr. Subramanian's rebuttal report (Dkt. No. 234-4, Ex. B to MTE Subramanian ("Subramanian Rebuttal Report")) are an attempt to relitigate claim construction. (*See* Dkt. No. 234-2.) More specifically, the motion relates to the '302 in particular and the aspects of the channel that were either already construed or concern situations where the parties passed on such opportunities.

Dr. Subramanian is a professor of engineering at Ecole Polytechnique Federale de Lausanne in Switzerland. *Id*. ¶ 6. He received his bachelor of science in electrical engineering from Louisiana State University in 1994, his masters and Ph.D. in electrical engineering from Stanford in 1996 and 1998, respectively. *Id*. ¶ 7. Dr. Subramanian has authored hundreds of publications in the field of semiconductor technology. *Id*. ¶ 9.

In summary, Dr. Subramanian opines that NXP's products infringe neither the '631 nor the

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at 46:6-15 (agreeing that the arguments concerning the existence of multiple charge-accumulating paths is about leakage). "Leakage paths" are so named because they are routes that current "leaks" to, i.e., where it is not supposed to go.

[7] *See* Dkt. No. 269-12, Durgin Opening Report ¶ 210 (admitting the existence of leakage paths and opining that a POSITA would not understand them to be "charge-accumulating"); Dkt. No. 249-2, van der Weide Rebuttal Report ¶ 64 ("Like Mandal's rectifiers, the Accused Products also include leakage currents that pass through the transistors of the four-transistor cell whether or not the transistors are activated"). That factual matter is not in dispute. The legal question of what constitutes a charge-accumulating path is not in dispute either insofar as the parties have agreed to a "plain and ordinary" construction. The only remaining question on which the parties disagree is whether the leakage paths (which allow current to flow in the opposite direction) are another charge-accumulating path or not.

'302. (*See* Subramanian Rebuttal Report at 1-3.) He bases his opinions on his own education and experience, NXP schematics, as well as conversations with NXP engineers. *Id*. ¶¶ 11-13. While Dr. Subramanian's analysis is based on an element-by-element comparison of the language of the asserted claims to the Accused Products, he fails to apply the Court's claim constructions.

It is well-established that experts may not argue claim construction to a jury. *See, e.g.*, *Cordis Corp. v. Bos. Sci. Corp.*, 561 F.3d 1319, 1337 (Fed. Cir. 2009) (holding that it is "improper" for an expert to argue claim construction to a jury) (internal citations omitted). Dr. Subramanian's opinions are an attempt to do just that. In the Court's September 16, 2021 Claim Construction Order (Dkt. No. 102), it settled this issue by adopting the "[p]lain and ordinary meaning" of the term "channel" with the stipulation that a channel need not have continuous sidewalls. The same is true for the term "separation" as much as for the term channel. The channel is what separates.

NXP cites various cases for the proposition that Dr. Subramanian is merely *applying* the Court's claim construction to the issue of infringement with respect to the Accused Products. That is not true. The Court is not in need of further elucidation of these terms. Accordingly, the Court **GRANTS** the motion to exclude paragraphs 302-55 and 365 of Dr. Subramanian's rebuttal report.

The Court rejects NXP's arguments that Impinj may not now argue that the facilitation of fluid flow language is not a substantive limitation on the ground that Impinj pointed out that prior art includes such a limitation. (Dkt. No. 294 at 10.) Impinj detailed many differences between the prior art and the claimed invention, including specifics about how the shape of the channel facilitates fluid flow (i.e., this is far from the only difference between the claimed invention and the prior art, and it is arguably not a material difference at all). As in *Texas Instruments Inc. v. U.S. Int'l Trade Comm'n*, discussed above in Section III.A.3.b, the relevant wherein/whereby clause merely states the intended purpose of the claim, not a substantive limitation. Merely providing that as a distinction from prior art does not render it substantive.

2. Dr. Thompson – Partial Grant/Denial

a. Motion to Exclude Thompson – Denied as moot

Defendant moves to exclude Dr. Thompson[8] under Federal Rule of Evidence 702 on the grounds that he too is attempting to relitigate claim construction issues with respect to the '631. (*See* Dkt. No. 241.) Dr. Thompson opines that the Accused Products infringe the asserted claims of the '631 and '302 patents. (*See, e.g.*, Thompson Initial Report ¶¶ 7, 8.) He confirms in his rebuttal report that the asserted claims of the '631 and '302 are valid. (Dkt. No. 269-18 at 2.) Because NXP's reasoning is largely the same in the motion to strike as in its *Daubert* motion, the Court considers them together.

NXP seeks to exclude paragraphs 451-452 of the Thompson Rebuttal Report. The motion with respect to the question of invalidity is moot because the Court excluded Dr. Subramanian's opinions and granted plaintiff's motion on the topic. The motion focuses exclusively on excluding Thompson's opinions concerning the Court's construction of "IC substrate" as it relates to the validity of the '302.

A rebuttal opinion is no longer necessary, moreover, because the Court has granted Impinj's motion to exclude Dr. Subramanian, so NXP has no evidence in its favor. Patents are presumed valid, and the patentee is not required to make a further showing of validity in the absence of evidence to the contrary.

b. Motion to Strike Thompson

Separately, NXP moves to strike the opinions of Dr. Thompson concerning the '631. (*See* Dkt. No. 239.) As discussed above in Section III.A.2.c, these opinions are not persuasive because the plain language of the claims forecloses Impinj's DOE arguments. Thus, despite the theories being different, the same analysis concerning the motion to exclude Thompson largely applies to

[8] Dr. Thompson is a professor of engineering at the University of Florida; he received his bachelor of electrical engineering, master of science, and Ph.D. in electrical engineering at the University of Florida; and he has more than 30 years of experience in the industry, including eighteen as a professor teaching courses on integrated circuitry at the University of Florida. (Dkt. No. 269-16 ("Thompson Initial Report") ¶ 12.) Dr. Thompson is a named inventor on more than 100 issued patents and is the author of more than 60 peer-reviewed journal publications. (*Id.* ¶ 19.) In his infringement analysis, Dr. Thompson provides an element-by-element analysis of how the Accused Products read onto the '631. (*See* Thompson Initial Report at 54-131.)

the motion to strike regarding opinions related to the '631. (*See* Dkt. No. 239).

The Court denies the motion to strike Thompson on the ground that it need not rely on his opinions in finding that NXP does not infringe the '631. The Court allows these opinions with respect to the DOE but finds that they are not persuasive. Impinj appears to have abandoned its literal infringement theory for the '631 and no party contends that an indirect infringement theory is on the table. As such, there is no prejudice to NXP and the Court denies NXP's motion with respect to these theories as moot.

3. Dr. van der Weide – Partial Grant/Denial

Plaintiff moves to strike Dr. van der Weide under Federal Rule of Evidence 702 and Patent L.R. 4. Specifically, plaintiff is seeking to strike paragraphs 28, 52-58, 71, 72, 79-81, 84 along with 29, 69-70, 73-78, 85-88 of his rebuttal report (to the extent those paragraphs rely on Dr. van der Weide's improper claim construction) and 127-133. (*See* Dkt. No. 232-2.)

Dr. van der Weide ultimately opines that the Accused Products do not infringe the '597 or '266 patents. (Dkt. No. 249-2 ("van der Weide Rebuttal Report") at 9-11). Dr. van der Weide provides more specific reasons for why the Accused Products lack a "processor block" with respect to the '266. *Id*. ¶ 30.

Dr. van der Weide is a professor of electrical and computer engineering at the University of Wisconsin. (*See* van der Weide Rebuttal Report, ¶ 6.) He earned his bachelor of science in electrical engineering from the University of Iowa in 1987; his master of science and Ph.D. from Stanford in 1990 and 1993, respectively. *Id*. ¶ 7. Dr. van der Weide performs research on digital communications systems, including RFID tags. *Id*. Dr. van der Weide has published his work in several peer-reviewed journals. *Id*. ¶ 9. In forming his opinions, Dr. van der Weide considered the Asserted Patents, schematics of the Accused Products, filings from the instant case, and discussions with Franz Antmann, engineer for NXP, among other documents. *Id*. ¶ 10. Dr. van der Weide disputes Dr. Durgin's opinion that the Accused Products infringe the asserted claims of the '597 patent. *Id*. ¶ 31. This is also true for the DOE arguments advanced by Dr. Durgin. *Id*. ¶ 90.

a. '597

With respect to the '597, Impinj argues that Dr. van der Weide attempts to relitigate claim construction issues by making prosecution history disclaimer arguments. For many of the same reasons as above with respect to Dr. Subramanian, the Court agrees and strikes Dr. van der Weide's report with respect to relitigating claim construction. Impinj's motion is granted.

NXP makes largely the same argument as above concerning Dr. Subramanian as well. However, by contrast, Dr. van der Weide does attempt to apply the Court's claim construction. Thus, the Court does not grant NXP's motion.

b. '266

With respect to the '266, the motion is denied as moot. The Court need not rely on these opinions to grant summary judgment in favor of NXP for the '266 because there is no electrical coupling. The plain language of the asserted claim of the '266 eliminates the possibility of infringement, and no further analysis is needed.

4. Haas and Kindler

The Court is deferring ruling on the motions concerning Haas and Kindler until trial.

C. Motions to Seal

Two very different standards govern motions to seal. *Pintos v. Pac. Creditors Ass'n*, 565 F.3d 1106, 1115-16 (9th Cir. 2009) *opinion amended and superseded on denial of reh'g*, 605 F.3d 665 (9th Cir. 2010). For most judicial records, the party seeking to seal the record must demonstrate "compelling reasons" that would overcome the public's right to view public records and documents, including judicial records. *Id.* (citing *Kamakana v. City & Cnty. of Honolulu*, 447 F.3d 1172, 1178 (9th Cir.2006)). However, a different standard applies to private documents submitted in connection with non-dispositive motions, since such motions are often unrelated or only tangentially related to the merits of the underlying claims. *Kamakana*, 447 F.3d at 1179-80. The Rule 26(c) "good cause" standard applies to documents submitted in connection with non-dispositive motions, such as discovery motions, which the court may seal "to protect a party or person from annoyance, embarrassment, oppression, or undue burden or expense." *Pintos*, 565 F.3d at 1116.

The parties seek to seal portions of their letters requesting a summary judgment conference

(Dkt. Nos. 219 and 225); the motion to strike Dr. van der Weide (Dkt. Nos. 232, 293); the motion to exclude Dr. Subramanian (Dkt. No. 234); the motion for partial summary judgment (Dkt. Nos. 235, 236); materials filed in connection with the motion to strike Dr. Thompson and to exclude Dr. Kindler (Dkt. No. 237); the motion to exclude Dr. Haas (Dkt. Nos. 257, 277, 279, 297); materials filed in connection with NXP's cross motion (Dkt. No. 269); materials filed in connection with NXP's summary judgment reply brief (Dkt. Nos. 289, 310); materials filed in connection with Impinj's summary judgment reply brief (Dkt. No. 295).

The parties seek to seal portions or the entirety of the documents identified above on the ground that they contain sensitive, confidential information that could harm their business interests if made public. The Court has reviewed the parties' requests and grants all of them with the exception of Exhibit 15 to the Omnibus Declaration of Michael C. Hendershot. Despite the dispositive nature of this motion, the parties have presented compelling reasons to keep these documents under seal and have mostly narrowly tailored the redactions. Within seven days of the issuance of this Order, NXP shall file a more narrowly tailored version of Exhibit 15 to the Hendershot Declaration or file a public version of the document.

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IV. CONCLUSION

For the reasons stated above, the Court **GRANTS** Impinj's motion for summary judgment concerning the '302 and **DENIES** NXP's motion for summary judgment concerning the same. Accordingly, only damages remain to be tried.

The Court **GRANTS** NXP's motion for summary judgment concerning the '266 and '631. Accordingly, the order resolves the claims as to those patents.

The Court **DENIES** NXP's motion for summary judgment concerning the '597 and trial will proceed on this patent.

The Court **GRANTS** Impinj's motion to exclude Subramanian. The Court **DENIES** the motions to exclude and strike Thompson. The Court **GRANTS IN PART AND DENIES IN PART** Impinj's motion to strike van der Weide. The Court **DEFERS** ruling on the motions with respect to experts Haas and Kindler. The Court **DENIES IN PART AND GRANTS IN PART** NXP's motion to seal at Dkt. No. 269 without prejudice.

The Court **ORDERS** NXP to refile the document at Dkt. No. 269-21 within seven (7) days of this Order. The Court **GRANTS** all other motions to seal.

This order terminates Docket Numbers 219, 225, 231-242, 257, 269, 273, 277, 279, 289, 293, 295, 297, 310.

IT IS SO ORDERED.

Dated: 5/22/2023

YVONNE GONZALEZ ROGERS
UNITED STATES DISTRICT JUDGE